

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

DOEDE TERPSTRA ET AL

NL 000383

Serial No.

Group Art Unit

Filed: CONCURRENTLY

Ex.

Title: METHOD OF MANUFACTURING A BIPOLAR TRANSISTOR SEMICONDUCTOR
DEVICE

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to calculation of the filing fee and examination, please
amend the above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

3. (amended) A method as claimed in claim 1, characterized in
that after the formation of the intrinsic base region, a layer of
an electrically insulating material is provided, which is subjected
to an etching operation so as to form spacers on edges of the base
contact and the collector contact, causing these contacts to be

electrically insulated from the emitter contact to be formed in a subsequent stage of the production process.

5. (amended) A method as claimed in claim 3, characterized in that during the etching operation, parts of the layer of electrically insulating material are protected against etching by a mask in the intermediate region at the location where this intermediate region adjoins the isolation region, so that said strips of electrically insulating material separating the emitter region from the isolation region are formed by etching.

6. (amended) A method as claimed in claim 1, characterized in that the doping step carried out to form the intrinsic base region is performed prior to the provision of said strips of electrically insulating material.

7. (amended) A method as claimed in claim 1, characterized in that, if use is made of a semiconductor body of silicon, the surface of the active region is covered at the location of the intermediate region with a masking layer to form said strips of electrically insulating material, which masking layer protects the surface against oxidation and can be selectively etched with respect to silicon oxide, and said masking layer leaves parts of

the active region, where strips must be formed, exposed, after which said exposed parts of the active region are provided, by means of oxidation, with a silicon oxide layer, whereafter the masking layer is removed by selective etching.

REMARKS

The foregoing amendments to the claims were made solely to avoid filing the claims in the multiple dependent form so as to avoid the additional filing fee.

The claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or continuing applications.

Respectfully submitted,

By 

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APPENDIX

3. (amended) A method as claimed in claim 1-~~or-2~~, characterized in that after the formation of the intrinsic base region, a layer of an electrically insulating material is provided, which is subjected to an etching operation so as to form spacers on edges of the base contact and the collector contact, causing these contacts to be electrically insulated from the emitter contact to be formed in a subsequent stage of the production process.

5. (amended) A method as claimed in claim 3-~~or-4~~, characterized in that during the etching operation, parts of the layer of electrically insulating material are protected against etching by a mask in the intermediate region at the location where this intermediate region adjoins the isolation region, so that said strips of electrically insulating material separating the emitter region from the isolation region are formed by etching.

6. (amended) A method as claimed in ~~any one of the claims 1 through 4~~claim 1, characterized in that the doping step carried out to form the intrinsic base region is performed prior to the provision of said strips of electrically insulating material.

7. (amended) A method as claimed in ~~any one of the claims 1 through 6~~claim 1, characterized in that, if use is made of a semiconductor body of silicon, the surface of the active region is covered at the location of the intermediate region with a masking layer to form said strips of electrically insulating material, which masking layer protects the surface against oxidation and can be selectively etched with respect to silicon oxide, and said masking layer leaves parts of the active region, where strips must be formed, exposed, after which said exposed parts of the active region are provided, by means of oxidation, with a silicon oxide layer, whereafter the masking layer is removed by selective etching.